
Module 3

Safe Work Practices

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Module 3 Overview

- ◆ High risk practices to avoid
- ◆ Safe work practices and safe work practices toolkit
- ◆ Protect yourself and make a personal protection equipment toolkit
- ◆ Control the spread of dust
- ◆ Exercise
- ◆ Discussion

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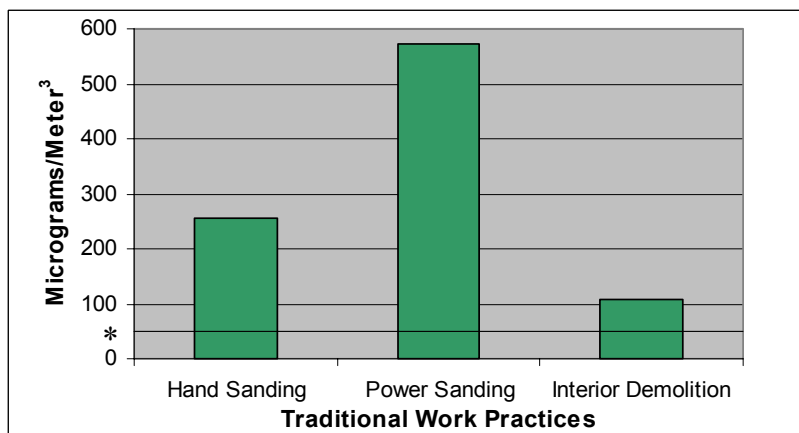
Role of safe work practices

- In addition to proper set-up at the start of a job and cleanup at the end of the job, the third key strategy to minimize the spread of dust is using safe work practices.
- Lead safe work practices are specific practices that create less dust and/or control its spread better than traditional work practices.

Upon completion of this module, you will know

- What high risk work practices to avoid because they create dangerous amounts of dust and paint chips
- What safe work practices to use to reduce and control dust and paint chips
- What tools you will need
- How to apply safe work practices to common renovation, remodeling, and painting jobs

Typical Lead Dust Creation



* OSHA's PEL, 50 $\mu\text{g}/\text{m}^3$



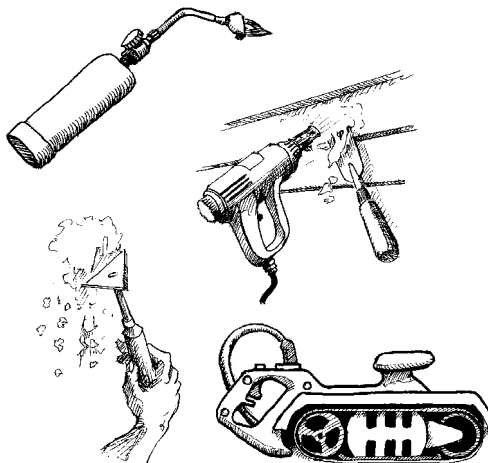
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Traditional work practices create large amounts of dust

- This chart shows amounts of lead dust created by three common construction practices: hand sanding, power sanding, and interior demolition.
- The amount of lead dust for each practice is significantly higher than the level where worker protection, such as respirators and protective clothing, is required by OSHA. This level is called the Permissible Exposure Limit or "PEL." This airborne dust is hard to control.
- By using safe work practices, you can control and significantly reduce the amount of dust created on the job. Controlling lead dust at the source of generation is important because dust generated into the air will eventually become settled dust on the ground. Later in this chapter, you will learn safe work practices that can replace these restricted work practices.
- The data used in the chart above are from *Lead Exposure Associated with Renovation and Remodeling Activities: Summary Report*, Prepared by Battelle for the U.S. Environmental Protection Agency, May 1997, EPA 747-R-96-005.

High Risk Practices



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- ◆ Open flame burning or torching
- ◆ Heat gun above 1,100 degrees Fahrenheit
- ◆ Power sanding, grinding, abrasive blasting without HEPA vacuum attachment
- ◆ Extensive dry scraping and dry sanding



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Avoid these traditional work practices



- A key to minimizing the spread of dust and paint chips is to not use certain traditional work practices known to create large amounts of dust and debris.
 - **Open flame burning or torching of paint and using a heat gun above 1,100° F** create fumes that are dangerous for workers to breathe. Small lead particles created by burning and heating also settle on surrounding surfaces and are very hard to clean up.
 - **Power sanding, grinding or abrasive blasting**, even on a small surface, creates a large amount of leaded dust that floats in the air and then settles on surfaces inside and outside the work area.
 - **Extensive dry hand sanding and hand scraping** can also create large amounts of dust and paint chips.
- See pages 9-10 in the *Lead Paint Safety* Field Guide for more information about these practices.



These practices are prohibited in pre-1978 properties that receive Federal housing assistance. If a pre-1978 unit or the family that lives in the unit receives Federal housing assistance, the practices listed on the slide above are prohibited, unless the property has been shown to be lead-free with a lead-based paint inspection. HUD also prohibits paint stripping in a poorly ventilated space using a volatile paint stripper. States, localities, and tribes may also prohibit these practices.

Safe Work Practice Alternatives to High Risk Practices

High Risk	Safe
<input checked="" type="checkbox"/> Open flame burning or torching	✓ Wet scraping and sanding, chemical stripping, heat gun below 1,100 degrees F
<input checked="" type="checkbox"/> Heat gun on high (1,100+ degrees F)	✓ Heat gun below 1,100 degrees F
<input checked="" type="checkbox"/> Dry scraping and sanding	✓ Wet scraping and sanding
<input checked="" type="checkbox"/> Power sanding, grinding, abrasive blasting without attachment to HEPA vacuum	✓ Use of power tools with attachment to HEPA vacuum



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Alternative safe work practices for each high risk practice

- For both large and small paint removal jobs, there are safe work practice alternatives.
- Some possible alternatives are listed on the slide.
- With experience, you will determine which safe work practices work best for different tasks.

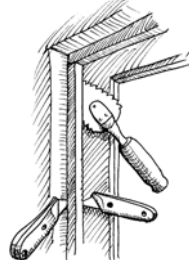
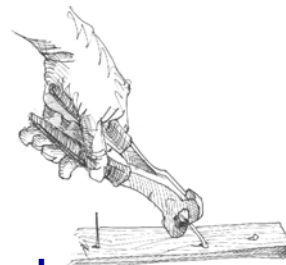
Note: HEPA (high efficiency particulate air) vacuums have HEPA-rated filters that stop 99.97% of particles of 0.3 microns or larger.

Also keep in mind

- Chemical strippers can be dangerous. Some can cause burns. Methylene chloride is suspected to cause cancer but may be appropriate for exterior work. Types of strippers range from citrus-based (safer) to more dangerous caustic strippers. Follow the manufacturer's directions when using any chemical stripper.
- If building components to be stripped can be removed, such as doors, consider having them stripped off-site at a paint stripping facility.
- Half-face negative respirators do not provide sufficient breathing protection when using methylene chloride strippers.
- See pages 9-10 in the *Lead Paint Safety Field Guide* for more information.

More Safe Work Practices

- ◆ Mist before drilling and cutting (hand tools only)
- ◆ Score paint
- ◆ Minimize pounding and hammering -- pry and pull instead
- ◆ Mist surroundings
- ◆ Use shaving cream.



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Additional safe work practices

- Mist before drilling and cutting to reduce dust creation and keep dust from becoming airborne and spreading beyond the work area.
- Scoring paint before separating components helps prevent paint from chipping when a paint seal is broken.
- Prying and pulling apart components and pulling nails instead of pounding create less dust and fewer paint chips. Vise grips may be useful when pulling nails.
- Frequent misting of surrounding surfaces with water helps keep dust and paint chips from becoming airborne when disturbed by work activity.
- Use shaving cream or foam prior to drilling or coring.
- Using power tools on heavily misted surfaces can be dangerous if they are wet. Tool blades can slip and water can cause electric shock. When misting, lightly mist the surface and use hand tools only. If power tools are to be used, they should be attached to a HEPA vacuum.
- EPA and HUD encourage contractors to use ground fault circuit interrupters (GFCI's) to help ensure safety while using electrical equipment.

Benefits of Safe Work Practices

- ◆ **Protect your health**
- ◆ **Protect your family by not bringing dust home with you**
- ◆ **Protect residents, especially children**
- ◆ **Simplify daily and final cleanup**
- ◆ **Enhance reputation for knowledge and professionalism**

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Advantages for contractors

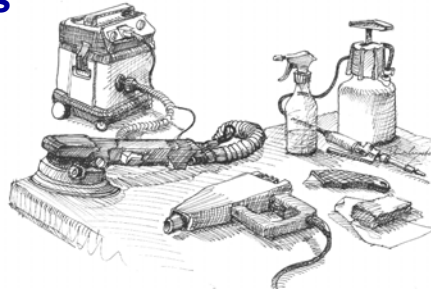
- In addition to being safer for residents, safe work practices have advantages for contractors and workers.

By effectively using safe work practices, you can

- Foster your reputation as an informed and professional contractor who recognizes the risks of lead-based paint and takes steps to help ensure resident and worker safety.
- Gain a reputation for leaving the job site cleaner than when you arrived.
- Help your customers feel safe and reduce their anxiety about the risks of remodeling and renovations.
- Have less dust and debris to clean up at the end of the job.
- Reduce risk of taking leaded dust home to your family.
- Because contractors are required to give customers the lead information pamphlet before starting work, those who use safe work practices can better respond to customer concerns raised by the pamphlet. A copy of the pamphlet is provided in Appendix 4. Information about the Pre-Renovation Education Rule, which requires contractors to give customers the pamphlet is provided in Appendix 5.

Safe Work Practices Toolkit: Tools, Equipment, and Supplies

- ◆ Wet/dry sandpaper, sanding sponge
- ◆ Mist bottle, pump sprayer
- ◆ Tape (painter's, duct, masking)
- ◆ Heavy duty (4-6 mil) plastic sheeting
- ◆ Heavy duty garbage bags
- ◆ Chemical stripper
- ◆ Utility knife
- ◆ Heat gun
- ◆ Vacuum with HEPA filter



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Safe work practices toolkit tools, equipment, and supplies

- There are some basic low-cost tools that you will need for safe work practices. Most of these tools and supplies are widely available from suppliers and home improvement stores.
- These tools are used to help reduce dust and for cleaning while working to keep dust under control.
- You will need several basic supplies to protect floor and ground surfaces, and bag, wrap, and clean dust as work is performed. If dust and debris are contained in plastic right after they are created, there is less chance that they will be spread beyond the work site.
- More toolkit supplies are listed on the next three pages of this manual.
- HEPA (high efficiency particulate air) filters are able to filter very small particles--to be considered a HEPA filter, it must be able to filter 99.97% of particles of 0.3 microns or larger.
- See the Tool and Supply List (Pages pages 75-76) in the *Lead Paint Safety* Field Guide for more information.
- See Appendix 2 for a complete list of supplies in the Safe Work Practices Toolkit.

Safe Work Practices Toolkit: Consider Investing in New Tools

◆ Large jobs may require special tools

- Power sanders, grinders, planers, shavers with HEPA filter vacuum attachment



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HEPA equipment for power tools

- Because wet methods are appropriate and practical only when using hand tools, adapters and HEPA vacuums are necessary for power tools.
- For contractors who frequently remove paint from large surfaces, an investment in attachments to control dust can make the job go quickly and safely.
- These tools use HEPA vacuums and adapters that help contain dust and debris as they are created. A shroud helps to contain the dust and paint chips as they are created. They are carried to a HEPA vacuum by a hose attached to the shroud.
- It may be possible to rent these tools, if you decide to not invest in them.

Power washing

- Power washing can be used if runoff is properly contained and disposed.

Set-up is still important

- Proper set-up and cleanup is still important because HEPA attachments do not eliminate the possibility that work will spread dust. Nonetheless, these attachments will reduce dust levels and thereby shorten cleaning time and lower costs.
- See the Tool and Supply List (Pages pages 75-76) in the Lead Paint Safety Field Guide for more information.

Protect Yourself

◆ Workers should wear

- Painter's hat -- helps keep dust out of hair
- Disposable coveralls
 - Can be reused if not ripped
 - Repair tears with duct tape
 - Store in plastic bag
- Disposable N-100-rated respirator

◆ Wash face and hands frequently

- Helps to reduce hand-to-mouth ingestion of

◆ OSHA may require more protection



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Workers should protect themselves

• Minimum steps that workers can take to protect themselves include:

- **Painter's hats** are an inexpensive way to keep dust and paint chips out of workers' hair. Painter's hats can be easily disposed of at the end of the day or job.
 - **Disposable coveralls** are a good way to keep dust off of workers clothes and reduce the chances for carrying dust to other areas of the residence as workers come and go. The coveralls can be removed when workers leave the work site and stored in a plastic bag overnight. To keep costs down, consider buying extra large size coveralls in bulk and sizing to fit workers with duct tape. Some coveralls have a hood to keep dust out of hair.
 - **Respiratory protection.** Workers should wear respiratory protection, such as an N-100 disposable respirator, to prevent them from breathing leaded dust.
 - **Workers should wash** their hands and faces periodically to avoid ingesting leaded dust. It is especially important to wash well before eating, drinking or smoking and to not do any of these in the work site. Some of the dust that settles on the face around the mouth invariably finds its way into the mouth. Workers should also wash at the end of the day before getting in their car or going home. They can take leaded dust home to their families.
-
- OSHA rules may require employers to take further steps to protect the health of workers on the job.
 - See page 17 in the *Lead Paint Safety Field Guide* for more information on worker protection.

Personal Protection Equipment (PPE) Toolkit

- ◆ Disposable hand towels
- ◆ Pre-moistened disposable wipes
- ◆ Painter's hats
- ◆ Gloves
- ◆ Coveralls
- ◆ Disposable shoe covers
- ◆ N-100-rated disposable respirator



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Personal protection equipment

- Disposable hand towels (such as paper towels) and pre-moistened wipes have multiple uses on the job. They can be used to quickly clean surfaces and by workers to wipe dust before leaving the work site and washing before eating, smoking, or drinking.
- "N-100" is a NIOSH rating for respirators. Respirators with an N-100 (or HEPA) rating are approved for use when working on lead-based paint surfaces. OSHA may require a different type of respirator rated for use around lead, depending on work conditions.
- All of the items on this list are readily available at hardware and home improvement stores. N-100 disposable respirators cost approximately \$6-7.
- See pages 75-76 Tool and Supply List in the *Lead Paint Safety Field Guide* for more information.
- See Appendix 2 for a complete list of supplies in the PPE Toolkit.

Additional equipment you should consider

- First-aid kit
- Safety glasses
- Ear protection for using power tools

Control the Spread of Dust

◆ When you leave the work site

- Remove shoe coverings, HEPA vacuum or wipe shoes
- Use tack pads
- Remove coveralls or HEPA vacuum clothes

◆ At the end of the day don't take lead home to your family on your clothes or in your car

- HEPA vacuum clothes, shoes
- Change your clothes and dispose or place in plastic bag to wash separately from household laundry
- Wash hands, face
- Shower as soon as you get home

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Precautions to take when leaving the work site

- When you leave the work site (the area covered by protective sheeting or the room), take precautions to prevent spreading dust and paint chips to other parts of the residence on your clothes and shoes.
- Every time you leave the work site, wipe or vacuum your shoes before you step off of the plastic sheeting. A large tack pad on the floor can help to clean the soles of your shoes. Remove shoe coverings if you are using them.
- At the end of the day, change your clothes and wash yourself to reduce the risk of contaminating your car and taking leaded dust home to your family.
 - Before leaving the worksite, remove any protective clothing, HEPA vacuum dust from non-protective clothing, and thoroughly wash your hands and face. Throw away disposable clothing or place clothing in a plastic bag to stop dust from getting on other clothes at home.
 - As soon as you arrive at home, take a shower and be sure to thoroughly wash your hair, especially before playing with children. Wash work clothes separately from regular household laundry to stop lead particles from getting on your other clothes.

Cleaning During the Job

- ◆ **A clean work site reduces the spread of dust and paint chips**
- ◆ **Clean as you work**
 - HEPA vacuum horizontal surfaces
 - Remove debris frequently
 - Remove paint chips as they are created
 - As building components are removed, wrap and dispose of them immediately
- ◆ **Clean frequently (in stages, at least daily)**



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Clean the work site frequently

- Cleaning the work site frequently as the job progresses will reduce the spread of dust and paint chips. The cleaning need not be as thorough as the final cleanup. It should, however, keep debris, dust, and paint chips from piling up and spreading beyond the immediate work site.

Cleanup during the job includes

- **Removing debris frequently.** During demolition jobs, seal and dispose of construction debris as it is created.
- **Vacuuming horizontal surfaces frequently.** HEPA vacuum dust and paint chips that settle on surfaces, including protective sheeting. As workers come and go during the work day, this debris is easily spread. Periodic cleaning throughout the work day will help to minimize workers tracking dust.
- **Collect paint chips as they are created.** When removing paint, piles of paint chips can also spread outside the immediate work area as workers come and go from the work site. To keep paint chips from spreading beyond the work site, make sure that they are collected as they are created. Also, periodically vacuum (with HEPA filtered vacuum) or wet sweep and dispose of paint chips.
- **Wrapping and disposing of removed components.** When removing painted components such as windows, trim, and cabinets, wrap them in plastic sheeting and dispose of them in stages. This will prevent the spread of debris and keep residents, especially children, from coming into contact with leaded dust created by work.
- **How often should cleaning during the job take place?** The goal is to keep dust and debris under control, not to maintain a completely spotless site at all times. Every job is different, so clean when it makes sense to without hindering progress. Remove large amounts of dust, paint chips, and debris frequently, at least daily.

Discussion

- ◆ What are the key safe work practices and equipment?

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Exercise: Safe Work Practices

- ◆ Work in small groups
- ◆ Get an assignment from the instructor
- ◆ Choose the tools and equipment you need for the job
- ◆ Discuss how you will do the job
- ◆ On a piece of paper, list tools and practices you will use
- ◆ You have 15 minutes

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Work Practices

This exercise gives you a chance to demonstrate work practices. The slide provides basic instruction.

- Stay in your groups of 2 or 3.
- Your trainer will assign you a task.
- Choose the right tools and personal protective equipment.
- Discuss the work practices you will use. Talk about any tools or practices you will do differently from how you usually work.

Debrief: Safe Work Practices

- ◆ What tools did you choose?
- ◆ What personal protective equipment?
- ◆ What methods did you choose?
- ◆ What was different from a non-lead job?

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Work Practices – A debrief

Consider the questions above. Discuss as a large group.

Now You Know

- ◆ How to work safely with lead
- ◆ Dangerous practices
- ◆ Alternatives to traditional practices

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The practices you learned in this module will help you make less dust as you work.

In the next module, we'll talk about how to clean up properly so that no dust is left behind when the job is done.

Module 4

Clean-up and Check Your Work

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Module 4 Overview

- ◆ What is effective clean-up?
- ◆ Clean up toolkit
- ◆ Interior clean-up techniques
- ◆ Exterior clean-up techniques
- ◆ How to check your work
- ◆ Safe disposal methods
- ◆ Keep in mind

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What you will learn in this module

In this module, we will cover all the topics listed on the slide above.

- The goal of cleanup is to leave the work area as clean or cleaner than when you arrived so that, as a result of your work, lead dust is not left behind to poison the residents of the home.
 - At the end of this module, you will know how to check your work to ensure the work area is clean enough to pass a clearance examination, if it is required.
- By using the techniques described in the following pages of this module you will be able to clean a work area quickly and efficiently. Remember, approaching a clean-up is similar to approaching a job. Proper preparation and planning will help make your cleaning efforts more effective and faster.
- Always schedule time at the end of each day to clean thoroughly.

What is Effective Clean Up?

- ◆ **Containing dust during clean-up to the area that will be cleaned**
- ◆ **Using proper cleaning techniques**
- ◆ **Cleaning all surfaces, tools and clothing**
- ◆ **Checking your work**
 - This could include clearance testing
- ◆ **Safe and secure disposal**

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Containment

- Effective cleaning begins with proper preparation and containment. Clean-up will be much easier and efficient if proper containment has kept all dust and debris confined to the work area. Also, containing dust to the area that is being cleaned is important.

Proper cleaning techniques

- You should be careful not to spread dust and contaminate other areas while cleaning. Using the techniques outlined in this module and following the proper sequence will help ensure that you do not contaminate other areas while cleaning.

Cleaning all surfaces

- “All surfaces” includes vertical surfaces such as walls and windows and horizontal surfaces such as floors, door tops and moldings, window troughs, and window sills. Cleaning should proceed from high to low, i.e., from top of wall to window to floor.

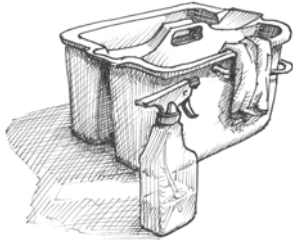
Checking your work

- Always conduct a visual inspection after any job. Look for any visible paint chips, dust or debris.
- It is also a good practice to conduct clearance testing (also known as dust wipe sampling) to confirm that all the leaded dust was cleaned up. We’ll talk more about clearance tests on slide 4-7.

Safe and secure disposal

- Bag and “gooseneck seal” all waste in heavy duty plastic bags. Safely dispose of all waste in accordance with State and Federal regulations.

Clean Up Toolkit



- ◆ Vacuum with HEPA filter
- ◆ Misting bottle and pump sprayer
- ◆ Mop with disposable heads
- ◆ Detergent
- ◆ Two buckets or two-sided bucket
- ◆ Disposable hand towels
- ◆ Heavy duty garbage bags
- ◆ Duct tape
- ◆ Shovel and rake

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Clean Up Toolkit

- The tools listed on the slide above are for cleaning interior and exterior jobs. Some tools, such as the pump sprayer, shovel, and rake are used primarily for exterior clean-up. Other tools, such as the buckets and mops are used primarily for interior clean-up.
- The following pages discuss clean-up for both interior and exterior situations.

Interior Clean-Up Techniques

- ◆ **Pick up all paint chips with wet, disposable cloth**
- ◆ **Pick up protective sheeting**
 - Mist sheeting before folding
 - Fold dirty side inward
 - Tape shut to seal in dirty side
- ◆ **Dispose of protective sheeting at end of job**

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Pick up

- Always begin a clean-up by picking up all paint chips and any visible debris with a wet disposable cloth.

Protective sheeting

- Protective sheeting may be used again within the same work area if it has not already been folded (see pp. 47, Lead Paint Safety Field Guide). When the job is complete, clean protective sheeting using a HEPA vacuum. Protective sheeting should then be folded and taped shut. Always fold dirty side inwards, seal and place in heavy duty plastic bag. "Gooseneck-seal" the heavy duty plastic bag and dispose with the rest of your waste at the end of the job.

Interior Clean-Up Techniques



◆ HEPA Vac work area from high to low

- Start with walls, tops of doors, window troughs
- HEPA Vac at least two feet beyond contained area

◆ Wet clean from high to low

- Change cloths and rinse water often or use disposable wipes
- Clean the floor last

◆ Check your work visually



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HEPA vacuum the contained work area from high to low

- Start with the walls, tops of doors, and window troughs (high) and work your way down to the floor (low).
- Clean walls with a HEPA vacuum or by lightly wiping with a damp disposable cloth.
- Be thorough – don't rush.

When cleaning wet, you can either mist the surface with cleaning solution or use a wet disposable cloth

- Work from high surfaces to low. If a surface is very dirty use a moist paper towel before beginning to scrub with a wet cloth. (Note: Wiping is not sufficient. You must scrub.)
- Replace cloths and change rinse water often.
- An alternative to rinsing and replacing cloths is to use disposable wipes.

Clean the floor last

- Mist floor and clean with a wet mop using cleaning solution and the two-sided bucket.
- Clean at least two feet beyond contained area.
- Then, repeat the process using a new mop head and clean water.
- Remember, always keep one side of the bucket for cleaning solution and the other side for rinsing and wringing out the cloth or mop-head. Change the rinsing water often.

It may be necessary to repeat the HEPA Vacuum and Wet Clean. **Always** clean until you can pass a visual check.

Interior Checking Your Work

◆ Always conduct a visual inspection after cleaning

- Look for paint chips, dust, debris, and deteriorated paint
- Focus on child access areas such as floors, window troughs, window sills
- Inspect beyond work area
- Repeat clean-up steps if necessary

◆ Clearance (dust sampling)

- Encouraged to check work
- Sometimes required

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Visual inspection

- A thorough visual inspection should be the first step of checking your clean-up. Any visible paint chips, dust or debris should be collected and disposed.
- **Visual inspection will not verify that a work area has been cleaned adequately.** In many instances lead dust is not visible to the naked eye and will not be detected during a visual inspection. To ensure that a work area is properly cleaned, follow the practices outlined in this section and take a dust wipe sample for verification.

Clearance

- Clearance (dust sampling) can be performed to check the effectiveness of the clean-up efforts.
- In some cases, dust sampling may be required as part of "clearance" (a defined process to ensure that a work area is not contaminated with lead dust after work is completed). In such cases, dust sampling must be performed by a certified or trained person. Supervisors should be aware of any State, local, or tribal laws requiring clearance following renovation and remodeling work.



Clearance is required in properties receiving Federal housing assistance.

Clearance is required in many of the jobs in pre-1978 properties that receive Federal housing assistance. The clearance examination may be scheduled by the agency administering the assistance. A clearance examination is performed by a trained person independent of the crew performing the work. Ask your client or contact the agency administering the assistance in the property to find out if a clearance is required at the end of the job and to find out who will schedule the clearance exam. Remember, if the property fails clearance, the unit must be re-cleaned and another clearance examination performed. Sometimes the cost of re-cleaning and additional clearance will be the responsibility of the contractor. Cleaning well the first time will save you time and money.

Exterior Clean-Up Techniques

- ◆ **For high-dust jobs mist area to keep dust down**
- ◆ **Visually inspect work area**
 - Look for dust, debris, and paint chips
 - Focus on child access areas such as:
 - Window sills
 - Bare soil and ground
 - Play areas

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High-dust jobs

- After completing a high-dust job, such as power-sanding a painted surface, mist the entire work area to keep dust from spreading.

Visual inspection

- A thorough visual inspection of the work area should be conducted after any exterior job. Any visible paint chips, wood chips or other debris from the work area should be collected and disposed with the rest of your waste.
- Focus your visual inspection on areas where children may play or be exposed to lead contaminated dust or debris. Such areas include exterior porches, outside play areas, bare soil and ground, and window sills.

Remember

- Lead contaminated soil can poison children.
- Avoid dry raking or shoveling and spreading dust. However, raking and shoveling is appropriate if the soil is misted first.

Exterior Clean-Up Techniques

◆ Pick up protective sheeting

- Collect and dispose of any debris or chips on sheeting
- HEPA vacuum sheeting
- Clean sheeting to visual clearance
- Fold and store securely for reuse

◆ Visually inspect beyond work area

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Protective sheeting

- Use of screen mesh, screen tarp, or landscape fabric is recommended to cover vegetation. This material should be fine enough to collect all chips and debris. Although recommended to be disposed of after use, if you intend to reuse the protective sheeting it **must** be cleaned thoroughly and pass visual clearance before being securely stored for reuse.
- If protective sheeting will be disposed at the end of the job, it should be cleaned and disposed with the rest of your waste.

Specific exterior jobs

- If work takes place on an exterior porch or stairwell, HEPA vacuuming, wet cleaning and mopping, in addition to a thorough visual inspection, should be used to clean the work area. For such jobs the clean-up can be similar to clean-up after interior jobs. Collect and dispose of any dust or debris with the rest of your waste.

Exterior Checking your Work

◆ Visual inspection

- Always conduct a visual inspection after any cleaning
- Focus on child access areas such as
 - Bare soil or ground
 - Window sills
 - Exterior porches
 - Play areas
- Inspect beyond work area

◆ Collect and dispose all paint chips, dust, debris, and deteriorated paint



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4-10

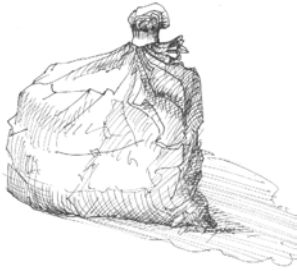
Checking your work

- A thorough visual inspection is the main part of checking your clean-up after an exterior job. You should collect and dispose of any visible paint chips, wood chips and debris found during the visual inspection. Child access areas include porches, play areas, bare soil or ground, and window sills.
- You may notice that the processes of clean-up and checking your work are similar for exterior jobs. A visual inspection is conducted once while cleaning and **again** after completing clean-up to check your work. Both visual inspections should be thorough and focus on collecting and disposing all visible paint chips, dust and debris.



Clearance on exterior jobs. For exterior jobs, HUD requires only a visual assessment of the work area to pass clearance. No dust or soil testing is required.

Disposal



◆ What should I do with my waste?

◆ At the work site

- Place waste in heavy duty plastic bag
- “Gooseneck Seal” the bag with duct tape
- Carefully dispose of waste in accordance with State and Federal regulations
- Store waste in a secure area



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4-11

At the work site

- Always collect, bag and seal your waste at the work site and in the work area. Do not carry your waste to another room or another area before bagging and sealing the waste. Store all waste in a secure container or dumpster until disposal. Limit on-site storage time. Avoid transporting waste in an open truck or personal vehicle. Some examples of waste include:
 - Protective sheeting
 - HEPA filters
 - All paint chips, dust and dirty water
 - Used cloths, wipes and mop heads
 - Any debris
 - Protective clothing, respirators, gloves
 - Architectural components

Waste water

- Water used for clean-up should be filtered and dumped in a toilet. Never dump this water down a sink, storm drain, on the ground, or in a tub. **Always be aware of State and local regulations regarding waste water disposal.**

Remember

- If needed, “double-bag” your waste to help prevent the waste from escaping if the bag is cut or ripped.

Disposal - Local and Federal Information

- ◆ Segregate hazardous and non-hazardous waste
- ◆ Minimize generation of hazardous waste
- ◆ Always check State regulations!

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4-12

Waste disposal issues

- Because the U.S. EPA considers most renovation and remodeling as “routine residential maintenance” the waste generated during these activities is classified as solid, non-hazardous waste and should be taken to a licensed solid waste landfill.
- You should determine whether you generate more than 220 pounds of hazardous waste per job site per month. If you have less than 220 pounds per location per month then manage this waste as solid, non-hazardous waste. If you generate more than 220 pounds of hazardous waste you should contact your State and local regulators to find out how to dispose of this waste properly.
- Some **possible** examples of **hazardous waste** may include: paint chips; vacuum debris; sludge or chemical waste from strippers; and HEPA filters.
- Some **possible** examples of **non-hazardous waste** may include: disposable clothing; respirator filters; rugs and carpets; protective sheeting; and solid components with no peeling paint. Please list and suggest any other examples.
- All waste should be handled carefully and sealed in heavy duty heavy duty plastic bags.
- Large architectural components should be wrapped and sealed in plastic sheeting and disposed along with your waste.

Remember

- Some states have enacted more stringent waste management and disposal regulations.
- Supervisors must be aware of State regulations concerning hazardous and solid waste management and disposal.

Exercise: Clean-Up

- ◆ Work in small groups
- ◆ Choose the tools and supplies you need to clean the work area
- ◆ Clean your work area
- ◆ You have 15 minutes

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4-13

Work Practices

This exercise gives you a chance to demonstrate clean-up. The slide provides basic instruction.

- Stay in your groups of 2 or 3, in your work area
- Choose the right tools. Tools available include: buckets, mops, water, detergent, HEPA vacuum, wipes, plastic sheeting, plastic bags, tape, etc.
- Clean up that dust.

How Clean is Clean?

- ◆ Is your work area clean enough to pass a clearance (dust wipe) test?

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4-14

Work Practices – A debrief

- Consider the question above. Can you see dust? Do you think if you ran a baby wipe across the floor it would come up clean?

Keep In Mind

- ◆ **Schedule time to clean thoroughly at the end of each day**
- ◆ **Assign responsibilities to specific personnel**
- ◆ **Create and maintain a checklist for cleaning procedures**
- ◆ **Always maintain sufficient cleaning and disposal supplies**
- ◆ **Clearance is an option for checking your work**

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4-15

Example check list for cleaning procedures

The list below is an example checklist for cleaning procedures. You may wish to add to or modify it to fit your needs.

- Was the work completed?
- Have all visible paint chips, dust and debris been removed and disposed?
- Was the protective sheeting folded, sealed, and disposed?
- Was the interior work area HEPA vacuumed?
- Were all surfaces wet cleaned? Was the floor cleaned last?
- Was the interior work area HEPA vacuumed again?
- Was all waste placed safely in heavy duty plastic bags?
- Were all bags properly sealed?
- Was all waste disposed in accordance with State and Federal regulations?
- Was a visual inspection completed?
- Were clearance (dust wipe) samples taken?
- Is the property owner satisfied?

Remember, even if you do not conduct clearance (dust wipe) testing at the end of a job, you will want to clean to a level that would pass clearance. This means a very thorough cleaning.

Module 5

Planning the Job

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5-1

Module 5 Overview

- ◆ Evaluate the property
- ◆ Evaluate the job
- ◆ Schedule the work
- ◆ Choose the right tools and practices for
 - Set up
 - Work
 - Clean-up

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5-2

Module Overview

- This module pulls all the topics previously discussed together and walks you through a job from start to finish to help you plan your job and do it right from the start.

Scenario 1: A new job

- ◆ Your boss has just told you that you are starting a new job today.
- ◆ It's an exterior paint job.
- ◆ It's at 234 Mulberry Street.
- ◆ They're expecting you, so get over there and get started.

Do you have any questions before you go?

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5-3

Scenario: A first look at the house.

- Read the scenario.
- As a large group, consider the question posed. You have no information about the house. What kinds of questions come to mind?

1. Evaluate the Property

◆ Was the residential building constructed before 1978?

- If yes, take proper action and use lead-safe work practices.
- If no, you do not have to worry about lead dust.

◆ Has there been significant renovation to the home?

- Newer additions may be post-78.

◆ Has the paint been tested for lead?

- If yes, collect documentation of what and where.
- If no, assume lead-based paint is present.



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5-4

Evaluating the Property

This slide highlights the questions to answer about a property before you do any work there.

- **Was the property constructed prior to 1978?** The majority of buildings constructed before 1978, especially those constructed prior to 1960, contain some lead-based paint. Unless otherwise documented, you should always assume that painted surfaces from pre-1978 houses include lead-based paint and that all dust generated from these surfaces may contain lead. Although the amount of lead-based paint found in homes varies, older dwellings typically have more lead-based paint. For pre-1950 properties, you should assume that lead-based paint is present on most painted surfaces. Some localities may have restricted lead-based paint prior to 1978.
- **Has there been significant renovation?** If all of your work will be conducted in an addition to the dwelling that was constructed after 1978 or in a home that was gutted and renovated after 1978, you do not need to utilize lead-safe work practices in the parts of the home that were built/renovated after 1978. You should ask the resident for information about significant renovations. If the resident does not know when the renovation took place, and the property was constructed prior to 1978, you should assume all painted surfaces contain lead-based paint.
- **Has the property been tested for lead?** Lead testing will tell you if there is lead in the property. If the resident has documentation that a certified inspector or risk assessor performed a lead evaluation and found that no lead-based paint is present in the work area, you do not have to utilize lead safe work practices, regardless of the age of the property. If the paint has not been tested for lead, assume that lead-based paint is present and utilize lead safe work practices.



HUD's Lead Safe Housing Rule does not provide an exemption for additions built after 1978 unless the surfaces to be disturbed are tested for lead and are found not to be painted with lead-based paint. Therefore, when working in a Federally assisted or Federally owned dwelling, workers should use lead safe work practices in all parts of the unit including additions unless testing has shown that the surfaces they will disturb are not painted with lead-based paint.

1. Evaluate the Property

◆ Does this property receive government assistance?

- If yes, lead safe work practices may be required. Check with the client.
- Confirm this is not an abatement project.

◆ Where is this property information?

- Ask the client. This information is available from tax records, disclosure forms or other documentation
- If no documentation is available, assume lead is present.



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5-5

Evaluate the Property

In addition to the questions on the previous slide, the job supervisor should determine if there are any special requirements for the work related to Federal housing funds.

Is the property assisted with Federal, State, local, or tribal funds? If the property is assisted, the job may require the practices learned in this course. Talk to your client about any work requirements and confirm that this is not an abatement job that requires a certified abatement contractor. (See Appendix 1 and Appendix 3 for more information on Federal requirements.)

Where is this property information? The client should be able to answer all four of the questions we just discussed. If they can't, they should be able to find that information through tax records, the disclosure forms they received when purchasing the property, and other documents.

Scenario 2: A first look at the work

◆ Your boss says:

- The house was built in 1939
- No testing was done
- Assume lead is present

◆ What questions do you have now?

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5-6

Scenario: A first look at the job

- Now you know the age of the house. How does that affect your actions?
- As a large group, consider the questions posed.

2. Evaluate the Work

◆ Will this job involve:

- Sanding, scraping, drilling?
- Demolition?
- Other activities that make dust?

◆ If yes, take proper precautions:

- Set-up
- Work practices
- Clean up

◆ Will this job create high levels of dust?



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5-7

Evaluate the work

This slide lists the kinds of questions to consider when planning the actual work.

Will the work involve scraping, sanding, or other activities that make dust?

- All renovation, remodeling, and painting activities that disturb painted areas, including scraping paint, removing siding, replacing windows, will create some dust. Additionally, some areas, such as window troughs and loose areas near a building's foundation, typically accumulate dust and paint chips. You must consider these factors when approaching the job and develop an appropriate plan to deal with the potential lead dust. If your work will NOT disturb ANY painted surfaces or areas where lead dust can accumulate, you do not have to use lead-safe work practices.

What precautions are needed?

- The amount of dust created is directly related to the size of the work area, condition of the structure, and tools, materials, and dust control methods used. Previous modules presented descriptions of the necessary precautions you should take while setting up the work areas, performing renovation, remodeling, or painting activities, and cleaning up.

If the job will disturbed paint surfaces, will it create high levels of dust that will cause you to take extra precautions?

- As highlighted in previous modules, some projects create more dust than others. Major renovation work, such as demolition, or removing old paneling, siding, windows, or wall-to-wall carpeting, can create high dust levels. Additionally, surfaces with deteriorated or chipped paint are more likely to generate high levels of dust than intact surfaces. The level of dust a job will create directly affects other parts of your job, including the materials and equipment required, precautions taken during set up, and the control methods used.

3. Schedule the Work

◆ How will I schedule lead-safe work practices?

- Minimize hassle to residents
- Limit the size of the work area
- Minimize labor costs

◆ Take high dust jobs into account

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5-8

Scheduling the job

This slide reviews considerations for the scheduling of work.

How will I schedule the lead safe work practices?

- When scheduling lead safe work practices, you should keep three goals in mind:
 - Minimize the hassle to the residents
 - Limit the size of the work area
 - Minimize extra labor costs
- In many cases, it is preferable to complete lead hazard control activities before beginning other renovation, remodeling, or painting activities. This will minimize the possibility of distributing lead dust outside of the work area. This may also allow most of your work to be done using traditional methods - without the precautions necessary when working with lead-based paint - thereby simplifying the coordination of other project-related activities. It would also minimize the disruption for to the residents by reducing the areas of the house they should not enter because lead dust activities are taking place.
- For large projects, it may make more sense to conduct lead safe practices at the beginning of each phase of the project. For example, if you are renovating all of the bathrooms in a house, you may work in one bathroom at a time. In this case, it makes sense to perform lead-safe work practices at the beginning of each individual renovation activity as opposed to at the beginning of the entire job.

Take high dust jobs into account.

- High dust jobs take more planning and may have a greater impact on your schedule. Some considerations for high dust jobs are:
 - Consider how the containment of the high dust job will affect the residents. Try to minimize the time residents are restricted. If they cannot have access to parts of their home, it may be a good idea to move them out temporarily.
 - Try to perform all high dust work at the same time.
 - If possible, set up a dust room and do all high dust work in one location.

Planning Exercise

◆ **Use the planning checklist**

◆ **Assume:**

- 1939 single family home
- No lead testing done
- No Federal funds
- Repainting the exterior
- Significant peeling paint

◆ **You have 5 minutes**

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5-9

Planning Exercise

1. Use the checklist provided on the next pages on your manual when planning a job.
2. To practice, read the assumptions on the slide and fill out the checklist.
3. Note, a blank copy of this checklist is in your notebook in Appendix 2 if you ever want to make copies.
4. You have 5 minutes to fill out the checklist.

<p>Evaluate the Property</p> <p>1. Was the property constructed after 1978?</p> <p>2. If the work area is limited to an addition, was the additional constructed after 1978?</p> <ul style="list-style-type: none"><i>If yes, you are not required to use lead safe work practices (unless the home receives housing assistance – see Question 4 below).</i> <p>3. Was testing conducted in the property?</p> <ul style="list-style-type: none"><i>If yes, collect any documentation and plan your work using the information.</i> <p>4. Is the property receiving Federal assistance through a State, local, tribal, or Federal program?</p> <ul style="list-style-type: none"><i>If yes, ask if there are any special work requirements for the job and confirm that it is not a job for a certified abatement contractor.</i>	<p>1. YES NO</p> <p>2. YES NO</p> <p>3. YES NO</p> <p>4. YES NO</p>
<p>Evaluate the Job</p> <p>1. Will this job involve scraping, sanding, drilling, or other activities that make lead dust?</p> <ul style="list-style-type: none"><i>If yes, use the safe work practices described in this course. Use the attached list of supplies to plan your work. Plan your schedule to accommodate the necessary lead safety measures.</i> <p>2. Is this a high dust job?</p> <ul style="list-style-type: none"><i>If yes, use additional precautions as appropriate. Use the attached list of supplies to plan your work. Plan your schedule to accommodate the necessary lead safety measures.</i>	<p>1. YES NO</p> <p>2. YES NO</p>

SET UP TOOLKIT

Barriers	Coverings	Other Items
Rope	Heavy plastic sheeting	Tack pad
Barrier tape (bright color preferable)	Disposable mesh (e.g., burlap, cheesecloth, landscaping mesh)	Small disposable towels or wipes
Saw horses	Staple gun	Misting bottle
Orange cones or other similar marker	Tape (duct, painters, or masking)	
Signs	Utility knife or scissors	

SAFE WORK PRACTICE TOOLKIT

		Other equipment
Wet/dry sandpaper or sanding sponge	Heavy duty plastic sheeting	HEPA Exhaust attachments for power tools (sanders, grinders, etc.)
Mist bottle or pump sprayer	Tape (duct, painters, masking)	Power washing equipment
Chemical stripper	Utility knife or scissors	Needle gun with HEPA exhaust
Heat gun	Heavy duty garbage bag	
	Vacuum with HEPA Filter	

Personal Protective Equipment Toolkit

Painter's hats	Gloves	Disposable hand towels (e.g., paper towels)
N-100 disposable respirators or equivalent	Pre-moistened disposable wipes	Ear protection (when using power tools)
First aid kit	Safety glasses	Disposable shoe covers
	Coveralls	

Clean-up Toolkit

Misting bottle	Two buckets or two-sided bucket	Mop with disposable heads
Detergent	Shovel and rake	Tape (duct)
Pump sprayer	Heavy duty garbage bags	Disposable hand towels (e.g., paper towels)
Vacuum with HEPA filter		

Planning – What did you learn?

- ◆ Does this job need special practices? Why?
- ◆ Are they required or recommended?
- ◆ What tools did you choose? Why?
- ◆ How would your list change if this were an interior job?
- ◆ What if this were a smaller job?



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5-13

As a large group, discuss the questions above.

Now you know

How to plan for a job

- ◆ **Evaluation the property**
- ◆ **Evaluation the work**
- ◆ **Schedule the work**
- ◆ **Choose the right tools and work practices**
 - Set up
 - Doing the work
 - Clean up

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5-14

Now you know how to plan for a job. Go forth and do good work.